The Air Line Pilot

July, 1953

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What Price Protection?

UAL Captain G. C. Kehmeier Expresses His Opinion on Some of the "Ins" and "Outs" of This Business of Insurance

Life insurance was originally designed to protect your dependents against the loss of money they would sustain in the event of your premature death. Like any other form of insurance, it is a system of protection against the risk of individual loss, distributing the burden of losses over a large number of people. Many agree to share the burdens suddenly falling upon a few. In this way the individual risk is certain, but very small.

No one knows when he will die. The time at which death will occur is an uncertainty. Yet there are few businesses in which the elements of uncertainty enter so little as in the life insurance business today. This is possible through the development of the science of statistics. The number of people in a particular group who die during a year can be determined with uncanny accuracy. By consolidating a large number of risks, we make what is an uncertainty for one, a minor certainty for all.

Life insurance premiums are based on the principle that the value of the company's expected income from a group of contracts must equal the value of the expected outgo on the same contracts. Your premiums for any year should equal your share of the death claims and overhead expenses of the company and no more.

Only in the last four years have insurance companies ceased to use the *American Experience Table of Mortality* which is a guide to determine what premium rates should be. This table was compiled in 1868. A policy issued by a large Eastern life insurance company in September, 1945, seventy-seven years later, used this table. A policy issued by another company, one of the largest in the nation, in June, 1950, used the table compiled a decade earlier—*The Commissioner's 1941 Standard Ordinary Mortality Table.* These tables are an instrument by means of which are measured the probabilities of living and dying. Applied to a large number of possibilities, this numerical probability becomes a practical certainty. In Figure 1 is a comparison of the *American Experience Table* and the *Commissioner's 1941 Standard Ordinary Table.*

At age 35 the *American Experience Table of Mortality* shows that 8.95 persons will die out of each thousand. Suppose that a company wants to insure a thousand persons of that age for a thousand dollars each. All it must do is collect $8.95 from each individual, adding the necessary amount for overhead expenses. Having collected one thousand such premiums, the company will have a fund of $8,950 plus the amount necessary for overhead. This will be just the sum it will need to pay one thousand dollars on each of the hypothetical deaths occurring for that age and cover its overhead.

American Experience Table of Mortality

Age	Probability of death
35	8.95
36	9.09
37	9.23
38	9.41
39	9.59
40	9.79
41	10.01
42	10.25
43	10.52
44	10.83
45	11.16

Commissioner's 1941 Standard Ordinary Table of Mortality

Age	Probability of death
35	4.59
36	4.86
37	5.15
38	5.46
39	5.81
40	6.18
41	6.59
42	7.03
43	7.51
44	8.04
45	8.61

Figure 1

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W. W. Anderson, Editor

At age 45 the *American Experience Table of Mortality* shows that the rate will be 11.16 deaths among a thousand people. The protection cost must be $11.16. At age 55 the same table shows the mortality rate to be 18.57. With increasing age the likelihood of death grows greater, necessitating a larger levy of premium. You cannot beat the Table by buying insurance early in life.

A favorite argument of agents to get prospects to buy insurance when they are young is that if they wait a few years, insurance will cost more. So much is true. But it will cost that much more in those later years even if they do buy it now. Justice Louis Brandeis wrote, "you get no advantage by staring early, the same is true of fire insurance." This fundamental truth has been obscured because the probability of death increases with age, necessitating an even larger premium.

The *American Experience Table of Mortality* is inadequate for two reasons. First, the table was computed on 100,000 people chosen at random, regardless of physical fitness. When the companies, on the other hand, accept individuals as risks they do so only after the most rigid examinations. Were the companies to accept all risks, one of the objections to the Table would be removed. However, since they cannot do this they should use a table which shows the mortality of people they deign to accept as risks.

The second objection to use of this Table is that it was not revised for 80 years to conform to the advances made in medicine. The life span was much greater in 1951 than it was in 1868. For eighty years insurance companies used this Table charging on the expected mortality of all people in 1868, and paying on the actual mortality of people in good health in any subsequent year as late as 1948. This, of course, resulted in huge gains for the life insurance company.

Since 1948, life insurance companies have been using the *Commissioner's 1941 Standard Ordinary Table of Mortality*. This table was developed using the figures in the 1940 census, and reflects the gains made in medicine over a period of 72 years.

The Commissioner's Table is inadequate because it reflects the mortality of all people while the company pays on the actual mortality of people in good health. The Commissioner's Table shows that out of a thousand men age 40, 263 will die before reaching 60. In a letter dated November 3, 1950, Gordon D. McKinney, an Actuary for the National Association of Life Underwriers, writes, "Already, this CSO Table is antiquated. This 263 figure should be down just below the 200 figure at the present time."

A single decade has seen remarkable advances made in medicine, but such advances are seldom reflected in the premium rates you pay for a life insurance policy.

Any life insurance policy that builds cash values within the policy is incorporating savings with protection. The amount that is paid above the cost of the protection is a savings within the policy. A policy holder can pay from $5.00 to $300.00 for each thousand dollars worth of insurance, but regardless of the cost, the protection is still only one thousand dollars.

Life insurance agents frequently say, regarding term insurance, "You don't want that. It has no cash values and the cost increases with age." The agent will then try to sell you an endowment which will give you protection plus savings.

Systematic saving itself is highly commendable. Every individual should have a savings program, but before undertaking a program of saving in an insurance policy, you should acquaint yourself with the features in the so-called "savings" which make it scarcely recognizable as such:

1. **When an emergency requires the use of your savings, you are required to pay an interest charge of at least 5%. What institution of savings other than insurance, penalizes you with an interest charge when you wish to use your savings?**

2. **When you die you forfeit every cent of your savings. Your savings will be used to pay your death claim. With few exceptions your beneficiary will receive only the face amount of the policy. What institution other than life insurance requires you to forfeit your savings at death?**

3. **If you borrow on your policy, the amount of protection is decreased by the amount of the loan. It is obvious that you are borrowing from your beneficiary and not from the insurance company.**

For illustrative purposes we will compare the performance of a separate protection and savings program to savings within a life insurance policy. We can assume that a return of 3% is available on separate savings. In most cases a greater return can be realized by paying off a mortgage on your home or putting your money in high grade common stocks. We will assume that at age 20 a person takes a $10,000 Twenty Year Endowment with an average large-size mutual insurance company at a cost of $50.44 per thousand. Another person the same age purchases $10,000 worth of renewable term insurance at an average cost of $10.20 per thousand for twenty years and saves the difference of $402.20 per year at 3% interest. The accumulation of savings is as set forth in Figure 2.

Year	Savings Within Insurance	Individual Savings
5	$ 1,870	$ 2,190.40
10	4,460	4,738.60
15	7,070	7,691.75
20	10,000	11,116.24

The following table will indicate how much the beneficiary would receive in each case:

Year	Savings Within Insurance	Individual Savings
5	$10,000	$12,190.40
10	10,000	14,738.60
15	10,000	17,691.75
20	10,000	21,116.24

Figure 2

If your money is saved at 5% the estate at the end of 20 years would be $23,765.89. It is possible to more than double your estate by incorporating your savings in something other than an endowment policy with the same cash outlay.

It should be noted, however, that income derived from most insurance policies is non-taxable. In the case of an annuity or endowment contract a

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ABOUT THE AUTHOR

A pilot with United Air Lines since 1940, and a member of UAL Council 33-Denver, G. C. Kehmeier is a feature writer for the East Denver Journal and also contributes articles to the "Trail and Timberline," the publication of the Colorado Mountain Club of which he is a member.

A native of Colorado, he graduated from Western State College in Gunnison, Colorado in 1939. He is married and has two children, a daughter, 8, and a son, 6.

His hobbies: Photography, fishing, writing and mountain climbing.

Fire in Flight

A report by V. H. Brown (AA), Chairman of ALPA's Fire Hazard Committee, presented at the 1st Annual Air Safety Forum

Our early experiences indicate that one of the greatest hazards to aircraft in flight is fire—especially that fire which is exposed to the air stream, such as an engine nacelle fire. Going back to 1946, we can read of the serious nature of in-flight fires from a CAB report of a DC-3 accident which involved fire in flight. . . . "Inasmuch as the aircraft was observed before and during the time that the fire originated and was seen in flight until it crashed—approximately two minutes elapsed from the time the flame was first observed until the left wing failed and the aircraft fell to the ground." And further, "It is readily apparent that an automatic fire detection system would have avoided the loss of valuable time in such an instance."

Since that time there have been at least forty in-flight fires in our domestic scheduled air carrier operation and in these fires at least one hundred forty lives have been lost. In each case the aircraft involved was either totally destroyed or substantially damaged.

From our investigation of fire detection systems we find that our greatest problems lie in the reliability of the detector units themselves, in that they (1) give no indication when fire exists, or (2) give false warning when no fire exists. Either malfunction is serious.

We all remember the story of the shepherd boy, who cried "wolf." We likewise remember the phrase "too little and too late." In this case it can be said that **too late** an indication will result in **too little** extinguishing agent. I think, too, that we will remember the fireman's axiom, which goes something like this: "the first 10 minutes at a fire is worth the next 10 hours." This is proved by the fact that in almost 90 per cent of the city fire department alarms, the fire is extinguished without connection to or use of the city water supply. To further illustrate, hold a lighted match above a large basket of waste paper. Now pause, let it blaze for a moment. At this point blow it out. Imagine the difficulty of blowing it out if it were allowed to fall into the waste paper for ten seconds. This was the position in which the pilot of a DC-4 aircraft found himself last year when he was finally advised by a stewardess that his ship was afire. He was about three miles from an airport, yet his engine burned off before he could land. It was only by the grace of God and the skill of the pilot that the passengers and crew are alive today. We could rephrase the axiom to read "the first ten seconds of a nacelle fire is"—well, you know that answer as well as I.

The CAA Summary of Daily Mechanical Reports reveal many of the false alarm type malfunctions. The "failure to operate" type of malfunction, if mentioned, is usually located

What happens when the fire detection system on an airliner does not function properly is vividly portrayed above. The scene, a Braniff DC-4 after an emergency landing near Hugoton, Kansas, in March, 1952. Pilot Jack Stanford brought the plane to a safe landing after it caught fire and lost its No. 3 engine. Had the fire detection system been functioning the fire may have been extinguished in flight.

in the "Probable Cause" section of the accident report. Between July, 1951, and April, 1952, there were at least five serious fires in transport aircraft operated in domestic scheduled air carrier operations, and in **NOT ONE CASE DID THE PILOT GET HIS PRIMARY INDICATION THAT HIS SHIP WAS AFIRE BY HIS AUTOMATIC FIRE DETECTORS.** An "in flight" check would have probably revealed and corrected these systems.

To my knowledge, only one of our domestic air carriers have provided for regular "in flight" testing of the fire detection system, and this at the urging of this committee. Our experience has been that approximately 90 per cent of the systems that have been found to be inoperative in flight are perfectly normal on the ground, either with or without the engine running. In some cases we found that changing R.P.M. would change the degree of reliability of some faulty system. It appears, therefore, that if we expect the system to operate during flight we must perform our tests under those actual conditions (not ground test). At this point it might be interesting to note that in several of the fires just mentioned, by the time the fire was extinguished, it had burned out through the cowling and in through the skin aft of the fire wall.

The manufacturers must design and build reliable equipment—that is their responsibility. The carriers must maintain the equipment after it is installed —that is their responsibility. To intelligently and honestly test this equipment is our responsibility.

Many of our battles can and have been fought on the ground, but this particular one can only be settled in the air. There is **one and only one person who can regularly test this equipment in flight. So consequently, there is only one person upon whom the responsibility of the proper operation of the fire detector depends.** That is the pilot.

You may ask, what can be done to improve our system beyond "in flight" testing. Our experience has been that a high potential or resistance check of the electrical wiring plus a general tightening up of maintenance and inspection is of great help. Also, improving present methods of trouble shooting, and a maintenance run-up check. These, coupled with lower time interval overhaul of electronic equipment, at least until the desired improvement has been achieved, will go a long way toward restoring reliability.

The most frequent offending detectors, as near as we can determine, are the detectors in Zone 1. This is primarily due to the high degree of vibration and the effect of oil, abrasion, etc.

Many pilots consider Zone 1 fire warnings as unimportant, as there is no CO^2 provided. The best thinking now however, is that in addition to other Zone 1 procedures, the discharge of CO^2 into Zones 2 and 3 is recommended because of its cooling effect. Also some small amount of CO^2 will be drawn into Zone 1 by the airflow through the cowl flaps, and perhaps be instrumental in preventing a Zone 1 burn-through to Zone 2. CO^2 escaping

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Sterling W. Camden, Jr.

(October 20, 1913 — June 15, 1953)

Stricken with a heart attack at his desk in the Association's offices, Sterling W. Camden, Jr., ALPA's Executive Vice President passed away Monday morning, June 15. Efforts of a physician and a Chicago Fire Department Emergency Inhalator squad failed to revive him.

Sterling assumed the office of Executive Vice President in January, 1953. In that capacity he demonstrated his ability as an executive, his sound judgment, and, above all, his ability as an honest, capable, dignified representative of air line pilots.

He brought to ALPA highly developed traits of mind and personality so necessary for the skillful solution of the problems constantly before ALPA. His searching eyes and ready wit constantly reflected the human considerations that he kept uppermost in his mind.

An active Association member since 1945, Sterling served his fellow pilots faithfully. From 1947 through 1951, he served on EAL's pilot Negotiating Committees, and as chairman for two years. In 1949-50 he was elected and served as Chairman of EAL Council 51, New York, and in the latter year served as the Chairman of the EAL Master Executive Council.

Also in 1950, Sterling was appointed to work with the Association Committee on the problem of establishing an orderly procedure for the settlement of problems of pilot seniority arising out of air line mergers. In addition to serving on various accident investigation committees, and working with various groups on traffic pattern and noise abatement problems, he served in 1951 as a member of the 5-man Executive Board sub-committee charged with investigating and recommending changes in the Association.

Born in Pittsylvania County, Virginia, on October 20, 1913, he attended school in Madison Heights and Danville, Virginia. He first soloed in 1930 at Danville. Prior to World War II, he served as Operations Manager and Secretary-Treasurer of the Lynchburg Air Transport and Sales, Inc., at Lynchburg, Va. In 1941, he went into cadet training work, acting as Assistant to the Director of Flying, Army Primary Flight Training School, and Group Commander, at Arcadia, Florida, supervising the training and flight activity of 750 flying cadets and 130 flight instructors. During this tour of duty he was responsible for the school administration, operation of canteens, mess halls, housing, transportation, ground school training and coordination of activities with Army and civilian authorities.

In 1942, Sterling became General Manager of Embry-Riddle Company, Miami Flight Operations, with duties similar to those at Arcadia in a Navy V5 cadet training program.

Through home study and practical training, he trained and qualified for an A&E certificate which he received in 1938 and in 1940 qualified for all ground instructor ratings. While serving with Embry-Riddle he completed a night course at the University of Miami in Personnel Management and Industrial Relations.

Sterling went with EAL in 1944, was promoted to first pilot in 1946 and remained with Eastern until his employment by the Association in January, 1953.

And so to an end, all too suddenly, came this ever-active life of service and responsibility. We who knew him well will miss that ready smile, those flashing eyes, that steadfast purpose. Dedicated to the responsibilities of his position, he gave, probably too generously, of his time and energy to his fellow man and the Association's cause. The contributions of Sterling Camden to the air line piloting profession will long be remembered—his memory cherished.

Kenneth R. Andrews

Crime and Punishment

Teamwork and Group Co-operation, Not Discipline Used Negatively As Punishment, is Key to Safety, the Author Concludes

Achieving safety through discipline was the problem presented to the operations manager of a European airline. A captain with a thirteen-year perfect record cracked up an airplane worth nearly a million dollars. Passengers were aboard but nobody was hurt. The fault was clearly carelessness, associated with minor mechanical trouble. The operations manager did not know what form of discipline was appropriate. The conscientious pilot recognized his error and would learn nothing further from punishment. At the same time, the pilots' union and its interest in equitable handling of such incidents had to be considered. The air line had also a fair number of young pilot trainees who knew of the accident. Should not others be reminded by punishing the offending pilot? Should he not be made an example? Furthermore, could management retain its control if it ignored this incident? What with one consideration and another, this operations manager did not know what to do. He wanted to do what was right, but he didn't want to hurt a good pilot needlessly.

Now, I am not here because I know what to do. There is no ready answer to the problems posed by this incident. Yet we can't ignore the problems. As we consider every means of improving further the record of safety in aviation, we cannot overlook the fundamental truth that safety is accomplished through people in organizations. The role of punishment in conditioning behavior, morale, and cooperation is something we must reexamine in the light of what it is we really want to do and to get done, and how we want people to respond. I suggest that we examine the practicability of enforcing safety through discipline.

PUNISHMENT FROM MANAGEMENT'S POINT OF VIEW — 5 PURPOSES OF DISCIPLINE

Discipline for Revenge

Most of us are familiar with the more common approaches to punishment taken by those who mete it out. One of the oldest and most primitive uses of punishment may have been simple revenge. An eye for an eye and a tooth for a tooth was an equitable retribution, evening a score, cancelling an offense. The offender paid in the currency in which he offended. Thus if a small boy breaks his sister's bow and arrow and we as parents break his bow and arrow as punishment, we follow this approach to discipline. In certain very simple situations, this generally obsolete basis for punishment is still useful. But it is not practical to punish a pilot who has crashed an airplane through carelessness by asking him to ride in a plane which is crashed on purpose.

About the Author

B.A. and M.A., Wesleyan University; Ph.D., University of Illinois. Taught at University of Illinois, 1937-1941; at the Graduate School of Business Administration, 1946-present. Associate Professor of Business Administration. Special fields are Human Relations and Business Policy. Member of Editorial Board and Contributor to the HARVARD BUSINESS REVIEW.

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Five years military service, World War II. Presently Lt. Col. in the U. S. Air Force Reserve.

Discipline for Protection of the Transgressor

A more subtle purpose of punishment is usually cited by management to be—rather than revenge—the protection of a man against himself. His transgression is punished to enable a man to keep his baser impulses under control in the future. This theory is false to present-day psychology, which postulates that persons (at least those not suffering from schizophrenia) do not have personalities divided into bad and good halves. Our pilot, for instance, would probably not be punished to protect him from his desire to be careless.

Discipline for Protection of Society

A closely related purpose is to protect society against offenders. We remove hardened criminals from society, not to protect them from themselves but us from them. This purpose hardly applies to organization discipline, and it is not relevant to organizations except where the law is violated. And in safety matters there cannot be laws against bad judgment.

Discipline as Instruction

A more constructive purpose is said to be to teach offenders to comply. But our pilot, again, has learned his lesson from his accident. Most persons in aviation have more pressing reason to abide by safety regulations. In violations where accidents do not occur this purpose might apply but certain problems of communication keep most breaches of discipline which have no bad result from coming to the attention of management at all.

The point of view most commonly taken toward the usefulness of punishment is that a penalty teaches others a lesson. Disciplining an offender thus deters others from the same offense. This purpose has much plausibility,

but who wants to offend? Are the persons whose carelessness, bad judgment, and error cause accidents doing something which the fear of punishment would prevent them from doing? Without knowing more about the very complicated situations out of which each offense comes, it is not possible to say that proper punishment actually reduces the number of violations of good practice.

Discipline as a Mark of Authority

Many persons in management who question the effectiveness of punishment as a method of administration cling to it for reasons of authority. Does not the administration of punishment underscore the power of management to manage? Does not the application of discipline go with authority? While the more common reasons for punishment prove more and more inapplicable to present-day situations, it is generally felt that punitive discipline cannot be abandoned without weakening the position of management and removing from it its prerogative of "managing." So whether punishment serves the purposes of better results or not, it is at least, from the point of view of management, a means of pointing out who's boss.

Punishment from the Offender's Point of View

While it is true that managements in business organizations and perhaps even parents in families are a little unclear about what punishment is all about, its reason for being becomes even more confused when we examine it from the point of view of the persons being disciplined. What will our "perfect" pilot make of being made an example for the trainee pilots of his organization? What is the reaction to his suspension of a flight engineer who fails to fasten a door properly and loses a passenger? When several people are killed because a mechanic does not change a fuel feed valve diaphragm as required at engine overhaul, what is his reaction to being suspended? According to the logic of punishment fairly administered, these offenders should see the justice and importance of their being punished, learn a good deal from the experience, and go on to performance which is the better in the future because of the punishment suffered now.

We know by now, however, that persons under the pressure of punishment do not look so logically at their predicament. They may resent being

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Editor's Note: In this issue we inaugurate a series of articles by Capital Captain W. J. Hull. Age 39 and a two-million miler, Hull is New York based and presently flying Constellations on New York-New Orleans and New York-Minneapolis runs. All AIR LINE PILOT readers will remember his stirring article, "The Behncke I Knew" which appeared in the recent memorial issue. Old timers will also recall Hull's hair-raising story in the November, 1943, AIR LINE PILOT in which he described his experience in a DC-3 after losing 15 feet off one wing tip and all 48 feet of aileron.

ARE THE BRITISH REALLY AHEAD?

It is doubtful if anything in transport aviation history has fired the imagination of more people than the advent of Britain's De Havilland jet airliner, the Comet. The news accounts of the records it has been establishing almost monthly have delighted and thrilled millions of air travellers, whose craving for more and more speed seems never to be sated. America especially is a speed-crazed country, our tempo of life far exceeding the daily gait of the sedate British who first introduced the jet turbine to the world. The average American is enthralled at the mere prospect of coast to coast scheduled service in five hours. We are a progressive race, a demanding people, and it was American genius which created the airplane.

Yet the paradox of the age is that the United States is still without a single jet transport, nothing having much more than passed the drawing board stage, while England has been building and flying these defilers of distance for years. Much has been written in this country decrying the backwardness which has placed us in the position of fiddler to England (even Canada has produced and flown a jet airliner), but it is noteworthy that all professional opinion does not hold to this line.

Among the latter is to be found a host of airline pilots, grizzled veterans of many a titanic tussle with that ancient and avowed enemy of the aviator, the weather. When the Comet was first inspected by our pilots flying international routes, many were the compliments heaped upon our British cousins for their pioneering courage in producing the beautiful machine. But to many a wary eye it appeared to be a craft of such clean lines and high speed that question arose as to how to prevent these desirable qualities from becoming undesirable hazards should unexpected turbulence be encountered. This writer has never understood nor become quite reconciled to a design that incorporates four huge turbines buried in the wing and traversing its entire chord at what is normally the airfoil's thickest and strongest section. How, in the name of the pagan slide rule, did the DH designers accomplish the strength demands of such a structure?

While we have pondered these and associated problems, now comes one answer, rude and tragic. On May 2, one of BOAC's Comets flew into stormy weather ON THE CLIMB while only minutes out of Calcutta. The speedy ship's wing went to pieces and fell in shreds over a six square mile area, bringing death to 43 people. BOAC officials were quick to blame the inaccuracy of weather forecasting in the area for the tragedy (apparently America has no monopoly on buck-passing), adroitly avoiding allusions to the possibility of the inherent structural weakness postulated in the foregoing paragraph. It is interesting to note that a Constellation flew essentially the same course only minutes earlier. Severe turbulence was reported but the Connie came through unscathed.

It will be surprising if the British have seen the last of structural failures in the Comet wing. It must be borne in mind that aviation has entered a new era with the jet, an age where not only operating techniques require much readjustment, but where accepted structural values of the past will have to be reexamined and reevaluated. When we get

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Elimination of Air Line Accidents

An editorial reprinted from the April, 1953 issue of the Aviation Journal of India, "Indian Skyways," calling for the creation of an Air Line Pilots Association in that country in the interest of air safety.

Elsewhere in this issue will be found an article on the important problem which concerns all of us, the elimination of accidents from airline operation. Probably, as long as the human element plays a part in the aircraft's operation, accidents will always remain. Are mechanical devices performing the human functions any more reliable, they may not make a 'judgment' error in estimating correct action but mechanical or electrical failure may enter and produce similar kinds of accidents such as we suffer today at the hands of pilots.

Our contributor has given us a great deal of valuable material which we hope will result in much discussion amongst those directly concerned, not only in this country but in all parts of the world where these pages are read. We believe some of the suggestions set out are worth deeper investigation than they have so far received.

The obvious fairness in division of 'pilot error' is in our opinion a line of thought that must be investigated to the limit. In the past we have pointed out that it is not reasonable to expect pilots to operate without the best available aids to flying. The operation of the Night Air Mail whilst aerodromes are inadequately lighted and have not got full aids for landing in bad weather, in particular low visibility, is placing an unfair responsibility on the pilot and if disaster does overtake his aircraft, when he can no longer answer for himself, authority is all too ready to bring in the cause of the accident as 'pilot error'.

There have been cases of this kind far too near home to be pleasant and we have no wish to rake up unpleasantnesses of this nature that are now almost forgotten. But, it is a duty to remind authority that the condition exists in which pilots are expected to overcome flying risks and difficulties that should not be there. This is a matter for the DGCA and we are confident he will tackle it with energy and ability. There must be no more accidents that should be brought home to lack of flying aids.

What of the operator's responsibility? Here we have one of those nasty little snags so difficult to put a finger on. The General Manager who by personal hint or the odd word here and there, lets it be known that the company only requires pilots who get there, regardless—is almost immune from assault. It is next door to impossible to prove such a policy—there is no official order, just that let it be known attitude that can be denied with absolute certainty it can not be proved.

The only safeguard against such a policy is an Association of Airline Pilots—the pilots know the policy exists even if they can not prove it, and sooner or later somebody is going to crash because of it, so they must act collectively and flatly refuse to fly for operators who follow this kind of policy.

Men in Motion

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into subsonic speeds of 500 m.p.h. the sharp-edge gust we have known in the past takes on a new and ominous meaning. We have had one spectacular demonstration of this, the disintegration of a diving jet at the Detroit Air Show last year. Most airline pilots know that recognition of the presence of turbulence is not always possible. (The BOAC crash had more than academic interest for me, coming as it did on the 10th anniversary of a flight well calculated to keep this axiom always before me). We are only beginning to learn of the strong, eddying turbulence along the edges of the earth's mighty jet streams which are seasonal and flow west to east in the stratosphere, normally above the reach of present propeller driven airliners. But this altitude is the jet plane's domain.

Realizing the caprices of the weather, it seems unlikely we shall ever reach the stage where accurate weather reporting will cover every square mile of a course, especially for over water flights. The Weather Bureau, the dispatchers, and the pilot of the National Airlines DC-6 which crashed during a violent storm in February into the Gulf of Mexico were all caught flat-footed by the unexpected genesis of a small localized system which became a howling maelstrom in only a few hours.

The high altitude problems attendant to the operation of jets with passengers are far from solved. Pressure losses and explosions at altitudes of 40,000 feet and higher can pose questions involving life and death in a matter of minutes for all concerned. We still have windows blowing out of pressurized ships which have been in service seven to ten years, several times with grievous results. Thus far, the Comet has not had any untoward incidents of this nature, which speaks well for its design. But it is still a comparatively new airplane and many more lessons will be learned from it.

Oswald Ryan (right), Chairman of the CAB, is shown with ALPA President Sayen at the banquet of the Air Line Stewards and Stewardesses Second Biennial Convention, May 12-15.

But the jet turbine's greatest disadvantage is its enormous appetite. High fuel consumption is one stumbling block for which there seems to be no answer at this time. And until this problem is solved no airline operator in this country can be blamed for adopting an attitude of patience. One of the big carriers is beginning to lean toward the turboprop as the next logical step.

So, while the newspaper editors go raving on, criticizing our "dullard" engineers and transport aviation in turn for allowing us to fall into an unaccustomed role as spectator at the main event, these selfsame "talentless" engineers and the "effete" airline industry are quietly going about their business, making plans, but biding their time until the hour is ripe before emerging with their trump cards in America's bid to recapture its rightful place as the No. 1 power in world aviation. It is our birthright and we mean to have it back. But not at the tremendous cost Britain is paying.

As a working pilot in this magnificent industry, I, for one, am glad we have chosen the middle of the road. This time we are playing it smart. Maybe America is maturing.

Crime and Punishment

(Continued from Page 7)

made an example. They may resent being punished for a violation of a rule which in their experience has never before been enforced. Since a whole range of information is available to them which is not easily available to management, they look upon their own offense quite differently. They may reason that because an accident occurred following their violation, bad luck is involved rather than a punishable misdemeanor. A stewing about a fancied injustice, the emotional disturbance of adjusting to important punishment like suspension or dismissal not only creates negative rather than constructive effects in the offender, but may, through his expression of his feelings, have a bad effect upon the morale of others as well.

There appears to be often a considerable irrelevance between the theoretical purposes of punishment and the actual effects upon the offender and his associates. One of the commonest consequences of discipline rigorously adhered to is increased insecurity and fear, which is already an important factor in the performance of persons in crews and on the ground. Without doing more than ask you to think of instances from your own experience, I should like to raise the question, does not discipline serve the punisher much better than anybody else? Does not the purpose of punishment as conceived by management often fail to be communicated to the organization and individuals supposed to be instructed?

Discipline from the Point of View of Common Sense

I am not about to propose the abandonment of discipline as a means to a desirable goal. But in view of the difference between purpose and the effect, the administration of discipline may actually detract from rather than contribute to effective achievement in safety. It may weaken morale and lower the high level of efficiency which is impossible without high morale. In view of this possibility, we should take a different view of discipline.

It seems to me possible to think of discipline not as punishment but as a constructive force for growth and development. Properly administered, it can serve management purposes more important than those which I mentioned earlier. First, discipline can perform the valuable service of regularizing organization activity so that

In a practical approach to jet knowledge, George Haldeman, Chairman of the CAA Turbine Powered Transport Evaluation Team is shown with Rudy Thoren (left), Chief of Flight Tests, Lockheed Aircraft, and (right) with Herman (Fish) Salmon, Lockheed Flight Test Pilot after several flights through the sonic barrier in a Lockheed jet fighter; later, Haldeman checked out in the plane to find out a few things for himself. Haldeman and his group soon plan to visit with ALPA.

a person can learn what is done, how it is done, and when—the ways of an organization, in short. Until a child in a family and until an employee in a company can find out the answer to the question "how do we do things here?" he cannot move forward. He needs to have information about how things are done in his organization. This must be knowable; it must have a pattern neither too rigid to forbid change nor too chaotic to preclude regularity. This he learns in order to discover what is expected of him. He cannot qualify himself to meet those expectations until he learns what they are. By replacing confusion with regularity, discipline serves to help create an orderly environment in which a person can learn to be at home and to grow up.

A second important objective of discipline properly administered is the selection of persons of sufficiently similar backgrounds, skills, and inclinations so that they will be able to work together. The operation of a system of rewards and disapprovals, of promotions, dismissals, culls out the persons who do not wish to conform. I do not suggest that every organization must be composed solely of people who are carbon copies of each other, but they must have enough in common to have half a chance of becoming a compatible and cooperative organization.

In the administration of discipline, then, it should be less the purpose of management to accomplish retribution or vengeance than to bring and keep together people of different but compatible abilities and ambitions and to create an environment in which the chief goal—in our case the safe, efficient, and profitable operation of aircraft—can be cooperatively achieved within known limits of individual freedom. If an organization is disunited by people pulling in radically different directions or by confusion about what is and is not acceptable behavior, no system of punishment will deter the violations of safety rules arising from inattention, boredom, disaffection with organization, or in general from enervated morale.

Essential Conditions for Progress

If the constructive rather than punitive goals of discipline become primary, what are the essential conditions for progress toward these goals? Most obviously, of course, discipline in family and in business organizations should as far as possible be consistent from period to period. The gap between what management intends to communicate by punishment and what offenders learn from punishment is widened if certain offenders are singled out during campaigns to enforce good practice. A pilot who is suddenly

MEET YOUR VICE-PRESIDENTS

The election of UAL Captain Carl Peternell to the Regional Vice Presidency for Region V early in 1953 climaxes many years of service to the Association.

Active in Association affairs since his early days as a copilot, he first served as Copilot Representative for UAL Council 34 (Frisco) in 1943. He was elected Chairman of the Salt Lake Council in 1946 and served on the Local Executive Council in Los Angeles in 1949. In early 1950 he was appointed to the UAL System Board of Adjustment where he served capably for almost two years.

Born in Cumberland, Wyoming, December 16, 1918, Carl attended school in Rock Springs and studied law at the University of Wyoming in Laramie.

He learned to fly in the Civilian Pilot Training Program with Plains Airways in Laramie. He joined UAL in December, 1940, and was promoted to First Pilot in February, 1944, and has flown the majority of UAL's routes during his twelve years with the Company.

He is married, has two children and resides presently in Palos Verdes, California. He is a tireless campaigner for the things he believes right and ALPA is fortunate to have a man of his ability in a position of responsibility.

reprimanded for cheating slightly on a minimum approach when everybody knows he and his associates have been doing it for years is not likely to profit from the experience. He will resent it. Sudden campaigns for brief periods do little except undermine respect for those responsible for enforcement. Rather than drives to tighten up on practice following accidents, **the steady equitable interest week after week and year after year is necessary.** Winking at offenses at one time and lambasting them at another is a practice which makes discipline a negative quantity in the achievement of good performance. How to live by an organization code cannot be well learned if the interpretation of rules varies widely even while the wording of the rules remains constant.

By the same token a second essential consistency is equitable administration of both formal and informal rules from power center to power center. If the practice at one headquarters is notoriously more lax than at another, and if responsible executives throughout an organization dispersed across the world take very different views toward how the rules should be administered and the violations punished, then once again attention is distracted from the way things are done and directed toward the whimsy of the administrator involved. The way of life in an organization ought, within variations justified by common sense, to be roughly the same in all its divisions.

Now if consistency from time to time and from one part of an organization to another is to be achieved, there must certainly be common understanding of the purpose of punishment and the objectives of discipline in all parts of an organization—especially in management. This communication must be sufficiently full and free to enable the constructive uses of discipline to be understood both by those who make the rules and those who decide whether and how well they will obey them. If the offender is to derive from his experience with violation and subsequent discipline the same thing which management hopes he will derive, each must understand the other. Barriers to understanding, like resentment, sympathy, frustration, must be removed.

The crucial administrative question is how these barriers can be struck away. Communication is the essential human problem in all organizations, the keystone to understanding and to the cooperation without which organization objectives cannot be readily achieved.

But while communication is before us as a key to safe performance and while we are examining its role in making discipline consistent and constructive, I should like to speak about the ultimate source of good discipline. Undoubtedly fear of authority, the intellectual acceptance of rules, and personal integrity and intention to do right all have important bearing. However, it seems to me that good discipline arises from the interest, beliefs and standards of the people concerned. We might say that (1) a consistent and efficient compliance with safety rules, (2) an effective and informed judgment in emergencies and, (3) an imaginative and loyal devotion to good performance under all conditions (in short, good discipline) stem directly from the relative position, the convictions and beliefs of the people concerned.

Management's standards may be secondary. I mean by this that the code which regulates the behavior of individuals is likely to be found not in the rule book or in the activity of a police force, but in the group itself. The attitude of pilots as a group toward what is and is not done may control the individual pilot as often as his own individual response to what management requires of him. A ground crew's feeling about what constitutes essential care and what is allowable deviation from established procedure may be more important to a mechanic than interpretations handed down by supervisors. A person learns what is and is not done not so much from reading the rules but from hearing the reaction of his colleagues to particular borderline incidents. Often without knowing it, we all break some rules every day but as individuals we usually obey rules the people we know best consider important.

Group Opinion

To make discipline an effective agent is to insure that the group code

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ALPA Mutual Aid Association
55th Street & Cicero Avenue
Chicago 38, Illinois

will be based upon high standards and that the group itself will enforce its standards by approving or disapproving individuals in violation. It is probable that some administrative means must be devised to make punishment consistent with the violation viewed not only from the point of view of the rule maker but from that of the group opinion which actually regulates behavior. Perhaps a kind of joint disciplinary board is required to close the gap between the point of view taken by management and the point of view taken by an offender and his associates. As a medium of communication such a device would provide for the necessary fact-finding which would permit individualizing the disciplinary action to fit the needs of the offender and of his organization. Communicating "why" the discipline is appropriate in the individual case would be accomplished not by words but by participation in the decision to punish or not to punish and if so how much. Union participation may be possible without disturbing present relationships and such participation may even not only prevent the kind of misunderstandings which now separate management and unionized employees but contribute to common understanding.

I do not know whether a joint disciplinary board, through which discipline becomes not solely a **management** but an **organization** function, is the answer to the problems of communication which must be solved to make discipline a constructive force. But at least some means of determining how each offense shall be handled and how the disciplinary means available shall be tailored to an individual's growth and to his organization's improvement must be found. It serves no purpose to punish and sit back to expect the deterrent action of punishment to work. The need for discipline diminishes as the codes of employee and professional groups become closer to those expressed by management. Current differences between these points of view in air crew and ground crew groups and airline management are artificial, since obviously it is the common interest of all parts of an aviation organization that safe performance be considered the number one avenue by which all the other goals of an organization will be reached. But so long as management considers pilots prone to sloppy performance by nature, if by chance they should, so long as pilots consider managements capricious and arbitrary in discipline, if by happenstance this occurs, the artificiality of these differences does not diminish their importance. Where people think that disciplinary action is a consequence of bad luck, of being caught, of red tape, of a supervisor fond of throwing his weight around, he will not learn from a violation nor will his colleagues be instructed in any lesson other than that management is off the beam again.

A Last Wish

Following is a letter received by ALPA President C. N. Sayen from Mary M. Clark, wife of a Western Air Lines Captain killed in the line of duty. It is published here because of the interest it will hold for many air line pilots.

"I am the wife of Captain Robert E. Clark who was killed in the crash of Western Air Lines DC6B in the San Francisco Bay April 20th.

"On the very top of his personal papers I found this bill for his A.L.P.A. dues. Knowing Bob and his very high regard for the association, I am sure that he would want me to take care of this right away. Enclosed you will find my check to cover same.

"Even as I write this, the representatives of A.L.P.A. and his fellow pilots are working up there to clear him of the two

Captain Clark Mrs. Clark

words he (and, I guess, every pilot) fears the most—"Pilot Error." What greater consolation could you and your wonderful organization give me?

"My Bob has told me so very much about "Clancy" that I feel that I know you already but perhaps, I may have the honor of meeting you personally in the near future.

"Could you please extend my best personal wishes to Larry Cates when you see him again? Bob valued his friendship so very much.

"My thoughts and prayers will always be with you for the continued success of A.L.P.A."

At least we can say that the administration of discipline is a critical, an executive function requiring as much attention and ability to take into account the points of view of others as any other executive function.

Good discipline, I have tried to say, comes not from punishment but from the free acceptance of objectives by all members of a team. When a well-known powder company, unionized to the hilt by a militant labor organization, is able to work out a system of safe operation in manufacture of powder, then a new young flexible industry like yours can also move further forward. With the union consenting to a suspension of seniority, this company has maintained the same work groups in its plant operations and kept turnover to a minimum. Promotion in these groups is not determined by seniority; the emphasis on teamwork and practice is great. In January of this year, 2,000 pounds of dynamite exploded in one of its plants. Once it begins, you can readily realize, an explosion of this sort does not take long to happen. But in this instance, no one was injured although the plant was completely demolished. The company attributes lack of injury to very carefully worked-out procedures and signals and drills whereby each person in the work teams knows the indications of danger, what signals to make, where to go, and when and how fast to go there. I daresay that in addition to knowledge of these procedures, there is an intense group interest that each member of the team do his part in containing rather than contributing to danger. Punishment for unsafe practices becomes a detail in an operation like this. The results are those which anyone taking an administrative view of safety will welcome. The development of team members to be equal to emergency, to be practiced in working with other team members in confronting danger, and above all to be devoted day in and day out to the practices and procedures which prevent danger from occurring needlessly is one of the things which we have in sight. Using discipline negatively as punishment does not advance us very far in this direction. Using it constructively as a force for growth (including participation of the group represented by the offender to prevent problems of communication) gives us at least the promise that achieving safety through the cooperation of people is more and more possible as we prove equal to the human problems involved.

NEW ALPA RETIREMENT CARD

ALPA members retiring from the profession after years of service are being presented by the Association with a new, distinctive "Retired" Membership Card. Printed on gold card stock and inscribed with the recipient's name, the card is given permanence by a laminated plastic coating.

What Price Protection

(Continued from Page 3)

taxpayer receiving payments must report as income a sum equal to 3% of the total premiums paid in.

Separate savings and protection plans require individual discipline so that savings are accumulated systematically. It will work only if the individual can plan and carry out a systematic savings program. Justice Brandeis recognized this when he said, "The mortality of policies is ten times as great as the mortality of the men carrying them."

Mr. Charles E. Brooks, a consulting actuary and author of *"Life Insurance for Professors,"* recognized the futility of combining protection and savings when he said, "In any attempt to devise a system of life insurance, a most important step is to effect a separation of those purposes which can be obtained through life insurance from such purposes as investment and savings for old age."

There is only one type of contract that gives you as close to your money's worth as you can get, and that is Renewable Term. It provides protection alone and does not overcharge for a shoddy savings feature. It is the cheapest kind of insurance, costing at age 35 less than half as much as Ordinary Iife, one third as much as Twenty Payment Life, and one fifth as much as the Twenty Year Endowment. People not familiar with insurance are apt to confuse the inexpensive feature of this type of insurance with poor quality. It is so inexpensive that the average buyer, if he learns of its existence, suspects a trick. It looks too good to be true.

Agents seldom recommend it and are reluctant to sell it because it brings them a negligible commission. Many companies do not issue it because it creates no cash values with which they can play. Due to the conspiracy of silence, the public is scarcely aware that such a type of policy is sold at all. And for those who do find that it exists, agents are full of fancy arguments to make its merits appear as drawbacks.

Only two classes of people ever buy it: those who understand insurance perfectly, and those who are financially up against it and are sold Renewable Term by an agent who will get nothing if he doesn't sell them this. The features of the One-Year Renewable Contract are:

1. **It is automatically renewable at the end of each year at the attained age rate.**
2. **It renews without a medical examination.**
3. **It always contains the full amount of protection.**

An examination of a table of One Year Renewable Term rates shows a slight increase from year to year. Even at age 54 the cost has not equalled the premium for an Ordinary Life Policy taken out at age 35, twenty years earlier! It is apparent that Renewable Term is the cheapest insurance up to age 55. After this age costs mount and at 70 they become prohibitive. This argument will be used by agents to discourage you from buying Renewable Term. However, you must keep in mind that mortality cost for your attained age must be met, no matter what type policy you carry, or when you took it out, or how long it has been in force. This mortality cost, which corresponds to the One Year Renewable Term rates, is a basic cost you must meet every year. In all contracts, except Renewable Term, you pay amounts far in excess of those necessary costs. It is only by juggling statistics, by sleight-of-hand with figures, that companies have been able to delude the public into believing that there is a way to avoid increasing cost for protection as you advance in years. You cannot avoid it. You can prepare for it by setting aside a reserve in your early years to meet the higher mortality costs for later years. This is how the company that sells a higher premium type policy avoids for you

Air Line Pilots Association Federal Credit Union Financial and Statistical Report May 31, 1953

BALANCE SHEET

Assets

	May, 1953
Loans (614)	$366,536.75
Cash	85,676.26
U. S. Bonds	345,528.92
Furniture & Fixtures	2,692.68
Prepaid Expense & Misc.	1,531.78
Total	$801,966.39

Liabilities

Shares	$778,470.12
Reserve for Bad Loans	13,078.58
Undivided Profits	2,681.04
Profit	7,499.40
Accounts Payable	237.25
Total	$801,966.39

STATEMENT OF INCOME & EXPENSE

Income

	May, 1953
Interest on Loans	$ 3,261.79
Investment Income	
Total	$ 3,261.79

Expenses

Salaries	$ 1,289.49
Office Expense	468.97
Educational Exp.	
Loan Insurance	265.03
Depreciation	62.72
Misc.	1,048.14
Total	$ 3,134.35
Net Profit	$ 127.44

Statistical Information

	May, 1953
Number of Members	2,317
Number of Potential Members	10,865
Loans made since Organization (Number)	2,317
Loans made since Organization (Amount)	$1,598,501.10

the rising costs; **you avoid them by paying them in advance.**

Originally, only term insurance was sold. Then companies began to create other forms in an attempt to assist you in preparing for higher costs for insurance due to advancing age. Their system was to pay a uniform premium throughout life rather than start with a low one and have it rise as mortality rates demand. By paying more than mortality rates in earlier years, you create a reserve (or cash value) in your policy. Then, if you live, and the mortality costs rise to a point where they exceed the uniform premium, the reserve is drawn upon to supply the necessary difference.

But so great are the overcharges, so rapidly does your reserve accumulate, that when the mortality costs begin to exceed the premium, the interest on your cash reserve is more than sufficient to cover the necessary increase. And actually your reserve never decreases; it keeps growing despite its partial use for mortality costs. In time the reserve reaches a point where it equals the face amount of the policy. The Ordinary Life Policy that is now issued endows itself at age 99. At that age the company returns the reserve or self insurance to you. You have paid your own death claims. And if you die at any age before the completion of your 99th year, the reserve you have built up to prepare you for future mortality costs is used to help pay your death claim.

With any policy other than Renewable Term you decrease the amount of net protection every time you pay a premium, for the insurance company applies your reserve toward settling your policy if there is a death claim. If companies would keep a double ledger for policy holders who wish to save within an insurance policy it would separate the sheep from the goats. One page of this double account should be devoted to payments for the present on a renewable term basis, and the other page should show the excess payments that may never be needed. Then if you die before you fulfill the purpose of your savings (the payment for high term premiums in old age), the amount of your savings or excess payments would be returned in addition to the face amount of protection you purchased and for which you paid.

Sheppard Holmes, compiler of the American Experience Table of Mortality, an actuary who completely understood insurance and its function, expressed the following as regards the Renewable Term Contract: **"There is but one function for the institution of life insurance and that is protection. There is but one form of contract issued by a legal reserve company that will give the insured a square deal. The companies are introducing a savings feature which, while it increases the cost of insurance, does not increase the protection. Therefore the companies should be compelled to open a double entry account with each policy holder. Then, in the event of the insured dying before the investment part of his contract became effective, the company would be compelled to return to the beneficiary, in addition to the face of the policy, that amount he had placed with the company for a purpose he had failed to live to realize."**

Type of Policy	Amount	Annual Premium Age 35	Agent's Commission
Ordinary Life	$10,000	$ 294.00	$147.00
20 Payment Life	10,000	420.04	168.02
20 Year Endowment	10,000	538.60	188.51
10 Year Endowment	10,000	1,085.10	271.27
5 Year Renewable Term	10,000	113.60	28.40

Figure 3

Mr. Roger Babson advises, **"Buy life insurance as protection the same as you would automobile insurance, but think twice before buying it as an investment."** In planning your estate, determine the amount you should leave your dependents in event of your premature death. It should not be your intention and it is not your obligation to support your children after they become of age. Hence, it is of the utmost importance to procure a maximum of protection while your needs are greatest. As you save a thousand dollars or get your home paid for you won't need so much insurance. As your children become of age you will need even less insurance. Don't let the argument of rising insurance costs with increasing age frighten you; if you are an individual who can save systematically (either through investments in insurance or investment shares or realty) you will not need insurance by the time you are 55 years old.

If you convert your present expensive contract to extended term or turn it in for its cash value you will undoubtedly effect a great saving. In fact, the interest you can earn on this retrieved cash will go a long way toward paying your premiums on your renewable term insurance.

An argument used by agents is "The average man cannot save systematically." So much may be true. But the high lapse rates on policies indicate that the insurance companies are not helping the average man save. For the man who has the individual discipline to carry an insurance policy to maturity, the advantage of saving outside an insurance policy is apparent. The insurance agent is not interested in helping the average man save. He is only interested in getting his commission on the first annual payment.

What I mean is illustrated in Figure 3. The rates for policies shown are taken from an agent's rate book issued to agents of one of the country's largest insurance companies. The agent's commission is approximate and will vary with different companies.

It takes courage to go counter to the propoganda of companies, the selfishness of agents, and the advice of uninformed friends. But equipped with the fundamental principles of insurance, you will be capable of exercising independent judgment. Renewable Term answers everyone's "insurance need." Most policy holders who now have renewable term cannot afford any other type of insurance. Desperate financial circumstances forced them to eliminate insurance wastes or go without insurance altogether. Must you wait until adverse circumstances

In Memoriam

Capt. Robert E. Clark
and
Co-Pilot
Robert C. Jacobson

of Western Airlines who died in the crash of a DC-6B in San Francisco Bay, April 20, 1953.

Capt. Douglas P. Volk
and
Co-Pilot
James Polk Stewart, Jr.

of Delta-C&S Airlines who died in the crash of a DC-3 near Waskom, Texas, May 17, 1953. Our sincere sympathy is extended to their wives and families.

	Mr. Term's Cost	Mr. Ordinary's Cost
Cost first 5 years	$ 98.70	$ 265.90
Cost second 5 years	129.50	265.90
Cost third five years	184.90	265.90
Cost fourth five years	267.80	265.90
Total cost over 20 years	3,404.50	5,318.00
20th Year Cash Value	none	3,900.00
Net Cost	3,404.50	1,418.00
Average Annual Cost	170.22	70.90

Figure 4

force you to buy insurance intelligently? The fact that you may be making a good salary is no reason for you to squander it on insurance orgies. There are more enjoyable ways of wasting money.

There are five companies who issue One Year Renewable Term to age 65. One company issues One Year Renewable Term to age 85. The Insurance Commissioner in your state can supply you with a list of the companies that sell One Year Renewable Term in your area.

I have shown you that life insurance is not a good method of saving, and that it is not a good method of investment. Many agents will counter the statement regarding poor investment with, "But our company is a mutual; you share in the profits. In fact, you own the company."

Forever rid yourself of this misconception. The so-called dividend check you get has no similarity to dividends from a genuine investment. Every policy taken out with a mutual company is known as a participating policy and requires a larger premium than a similar policy with a stock company which issues non-participating policies. The so-called dividends you get are only partial refunds on overcharges that never should have been made in the first place. Dividends are not guaranteed. And they seldom equal the difference between the rates charged for participating and non-participating policies. Most companies are mutual because it gives them additional funds with which to play.

Mr. Joseph B. Maclean, Assistant Actuary of the Mutual Life Insurance Company in his book *"Life Insurance"* says, **"It will be seen that the word 'dividend' is a misnomer, the 'dividend' being rather in the nature of a refund and not a return on investment as the term is generally used in commercial transactions."**

Mr. S. S. Huebner in his book *"The Principles of Life Insurance"* says, **"In actual practice, therefore, the stock company charges a lower rate of premium on non-participating policies than does the mutual company on participating policies. The stock company says in effect, to quote one description, 'keep the dividend in your pocket.' "**

Insurance agents are well equipped to prove to you that term insurance actually is the most expensive insurance that you can buy. They will show you that it costs two to three times what Ordinary Life costs. In Figure 4 is illustrated a typical analysis taken from an article *"The Termites Did It"* by Gordon D. McKinney, Actuary for the National Association of Life Underwriters. In this example, two men, age 40, purchase $10,000 worth of insurance. One buys 5 Year Renewable Term and the other buys Ordinary Life.

There are two fallacies in the Figure 4 analysis. The first is that you must live to enjoy it. All these savings are predicated upon your living to age 60. There is one chance in five that a man age 40 will not live until age 60. Twenty per cent of the time Mr. Ordinary's savings will be used to pay a death claim.

The second fallacy in the above analysis is that no interest is applied to the money that Mr. Term saves by not purchasing Ordinary Life. In order to get a proper cost analysis we will compare an Ordinary Life policy with a program of One Year Renewable Term as issued by a company offering both forms of coverage.

From the first year Mr. Term can provide a $10,000 estate, exactly as large as Mr. Ordinary's, for $9,849.41 worth of insurance. His premium for that amount of insurance would be $71.31 or $7.24 per thousand, which is $150.59 less than the $221.90 that Mr. Ordinary paid for his policy. With this $150.59, he can reduce his mortgage. In event of his death, his beneficiary will receive $9,849.41 from the life insurance company, and will have $150.59 less indebtedness on the mortgage—a total of $10,000. The following year, Mr. Ordinary's premium remains the same while Mr. Term's increases to $7.47 per thousand.

Most mortgages carry 5% and most men who would be buying $10,000

Age	Fund @ 4%	Insurance Required	Rate per Thousand	Total Cost	Difference in Premiums	Term's Savings	Ordinary's Savings
35		$9,849.41	$ 7.24	$ 71.31	$150.59	$ 150.59	none
36	$ 156.61	9,693.91	7.47	72.42	149.48	306.09	none
37	318.36	9,533.53	7.74	73.79	148.11	466.47	$ 130.00
38	485.13	9,368.00	8.01	75.03	146.87	632.00	400.00
39	657.28	9,197.06	8.29	76.24	145.66	802.94	660.00
40	835.06	9,020.52	8.60	77.58	144.42	979.48	900.00
41	1,018.66	8,839.17	9.02	79.73	142.17	1,160.83	1,140.00
42	1,207.26	8,652.95	9.49	82.11	139.79	1,347.05	1,360.00
43	1,400.90	8,461.70	9.98	84.50	137.40	1,538.30	1,560.00
44	1,600.00	8,264.80	10.50	86.70	135.20	1,735.20	1,780.00
45	1,804.60	8,062.90	11.06	89.40	132.50	1,937.10	1,970.00
46	2,014.48	7,856.92	11.84	93.21	128.69	2,143.19	2,150.00
47	2,228.90	7,645.80	12.64	96.60	125.30	2,353.20	2,320.00
48	2,448.37	7,429.93	13.51	100.20	121.70	2,570.07	2,480.00
49	2,672.80	7,209.30	14.41	104.00	117.90	2,790.20	2,630.00
50	2,901.80	6,983.00	15.37	107.17	114.73	3,016.53	2,780.00
51	3,137.20	6,752.00	16.49	111.10	110.80	3,248.00	2,920.00
52	3,377.90	6,515.20	17.68	115.00	106.90	3,484.80	3,050.00
53	3,624.20	6,272.90	18.93	119.00	102.90	3,717.40	3,180.00
54	3,866.09	6,036.26	20.25	124.25	97.65	3,963.74	3,300.00
55	4,122.29						3,520.00

Figure 5

Face Amount of the Policy		$5,000.00
Loan on Policy	$2,100.00	
Cash in Policy	268.00	
Total Co-Insurance		2,368.00
Net Insurance		$2,632.00
Premium Payments	352.05	
Interest on Loan @ 4½%	94.50	
Interest on $268.00 @ 4%	10.72	
Actual Cost for Net Insurance for 1950		457.27
Rate per Thousand for 1950	173.73	

Figure 6

worth of life insurance have an annual income of between $4,000 and $7,000. In view of these facts it can be said that Mr. Term can get 4% on his money after taxes.

The table in Figure 5 gives a true cost analysis. In checking these figures, you will note that Mr. Term's insurance is about $600.00 more economical than Mr. Ordinary's after twenty years. Between the ages of 42 to 47 Mr. Ordinary has a slightly larger savings, but every other age the savings program of Mr. Term is best.

Until you know how to audit your policy you do not know whether you are making or losing money on your insurance dealings. You are helpless before the persuasive arguments advanced by company and agent. **Insurance is seldom bought; it is sold** and it is sold in such a distorted manner that the buyer seldom knows what he is getting.

The following example will show you how to audit your policy. You will be able to calculate your present insurance costs and by comparing the costs with Renewable Term policies, you will see exactly how much you would save by buying low cost insurance and dropping or converting your present contract to extended term.

Mr. John Doe is now 32 years old. At age 24 he took out a policy with a major insurance company. An examination of the policy reveals the data set forth in Figure 6. If Mr. Doe surrenders this policy at the expiration of the grace period following the date that annual premium is due, and takes out $5,000 worth of Renewable Term at a cost of $8.91 per thousand, he would increase his estate by $2,368.00 and save $412.70 in premiums for 1950.

Inflation is a continuing process. There may be recessions and depressions but over a long period of time there has been a steady decline in the purchasing power of the dollar. A 1950 dollar will purchase only 31% of what a 1900 dollar purchased. Mr. Arthur Weissenberger in his annual publication *"Investment Companies"* predicts that by the year 2000, a dollar will purchase only 9% of what it would have purchased a century earlier. During the past decade and at the present time, inflation is accelerated due to war. There is good reason to believe that this accelerated inflation will continue.

One of the best ways to combat inflation is to purchase only low premium forms of insurance for protection and to invest the difference in a home or in types of securities that will appreciate as the dollar depreciates. As additional devaluations of the dollar occur a substantial rise in the price of homes is to be expected. Inasmuch as lumber is a natural resource commodity and its price is almost certainly to be affected by inflation, and because the building trades are well organized, building costs will remain at permanently higher levels.

MODES RETURNS

ALPA members and the industry's press will be pleased to learn that Ed Modes, who headed up ALPA's Publicity and Public Relations Department during the period February, 1946, through March, 1950, has returned to the Association after completely recovering from an extended illness.

He brings to the Association a wealth of talent in the editing, writing, and public relations fields.

Welcome back, Ed!

Fire in Flight

(Continued from Page 5)

through the cowl flaps also cools the nacelle skin aft of the cowl flaps in case it has been heated by previous flame passage.

Other activities in which this committee have had an active interest as an observer was the testing of the combustibility of engine crankcase breather fumes. These tests were conducted by the CAA and American Airlines at its Tulsa plant in late 1951. A length of hose some twenty to thirty feet long was connected to one of the two engine crankcase breather outlets, with the engine turning approximately 25" H.G. The crankcase fumes were directed into a five gallon bucket in which a fire had previously been built and to our complete surprise, burned with the intensity of an acetylene torch, burning the bottom out of the can in a very few seconds. The test was repeated using a hot piece of iron instead of the bucket of fire, with the same result. Tulsa is 670 feet above sea level and the engine was new. The mixture achieved at 25,000 feet with a 1500 hour engine is a question for speculation. More details on this test can be found in the CAA report on this subject. Your Committee presently is interested in obtaining a combustibility rating of this mixture, and will continue to pursue the problem.

A new and rather amazing method of fighting "in flight" cargo fires is also being evaluated by this committee. This consists of a method of sealing the cargo compartment of pressurized aircraft in such a manner that the fire can be contained until a landing can be made. At this early date a report cannot be made on this project.

An NACA fire prevention conference yielded several items of design and procedural information on crash fires with several items of particular interest to pilots. First, the necessity for reducing engine temperatures prior to making an emergency landing; careful evaluation of landing area with regard to terrain; availability of fire fighting equipment; cutting mixture at the instant of ground contact. Further, it has been determined that static electricity may form a primary ignition source in crash fires.

The future plans of this committee embrace further study of aircraft fires, containing, and fighting them, and to take every advantage of the opportunities that have been afforded ALPA by other study groups to participate in the study of fire hazards and fire detection systems.

"In this world nothing is certain but death and taxes . . ."

Benjamin Franklin

We are today all too familiar with the subject of taxes . . . aware also of the HIDDEN TAXES which increase our daily cost of living. We must all pay them, and there is no way they can be avoided . . . but

YOU CAN AVOID HIDDEN INSURANCE COSTS. The Franklin Life is the first company to provide flight personnel full coverage life insurance at standard rates.

During the past year 1800 airline pilots put away almost two million dollars for savings and to provide their families with more than twenty-five million dollars of complete and unrestricted life insurance coverage with The Franklin Life Insurance Company. This was due in no small way to our unusual and exclusive insured savings plans, as well as to our low-cost pure protection plans that are not rated with extra premiums because of your occupation.

Payroll deduction, which in addition to convenience makes possible a further savings of 6% on the monthly premium, is provided for Franklin policy owners by several of the scheduled airlines and can be made available to any others who desire it. Let us give you a full explanation — without obligation, of course.

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